We claim:

1. A run-flat insert for enabling a vehicle to run on a deflated tire, mounted in an assembly comprising a pneumatic tire and a wheel rim, said insert being mounted inside the air cavity of the tire and secured to the wheel rim, said insert comprising:

a) an elastomeric outer contacting portion for contacting the interior surface of the tire during deflated operation of the tire, and

b) a reinforced annular band disposed radially inward of said outer contacting portion, wherein said band comprises an elastomeric shear layer, at least a first membrane adhered to the radially inward extent of said elastomeric shear layer and at least a second membrane adhered to the radially outward extent of said elastomeric shear layer, and

c) at least one sidewall portion extending radially inward from said contacting portion for connecting said annular band to a base member fitted around the wheel rim for securing said insert to the rim, and

d) at least one carcass layer adhered to said annular band, and said carcass layer extending radially inward from said annular band and anchored in said base member.

2. The run-flat insert of claim 1, wherein said carcass layer is a continuous ply having a main portion adhered to said radially inner surface of second membrane and extending between said base members.

3. The run-flat insert of claim 1, wherein said carcass layer comprises at least a discontinuous segment anchored in said base member and extending radially outward to said second membrane, and wherein said segment is adhered to an axially outermost extent of said reinforced annular band.

4. The run-flat insert of claim 1, wherein said carcass layer axially overlaps said second membrane not more than 10 mm.

5. The run-flat insert of claim 1 wherein an elastomeric wedge is adhered to the interior surface of said carcass layer in said sidewall, whereby said wedge biases said sidewall to buckle in an outward direction.

6. The run-flat insert of claim 5 wherein said wedge has a radial height of about 50 percent to about 80 percent of the height of said sidewall.

7. The run-flat insert of claim 5 wherein said wedge is positioned in said sidewall essentially midway between said first membrane and said base member.

8. The run-flat insert of claim 5 wherein said carcass layer has an axially outward displacement from a chord connecting the upper and lower extents of said wedge.

9. The run-flat insert of claim 8 wherein said displacement of said carcass layer is greater than zero and less than or equal to about 8 percent of the height of said sidewall.

10. The run-flat insert of claim 5 wherein the thickness of said sidewall at the radially innermost extent of said wedge is between about 4 percent to about 10 percent of the height of said sidewall.

11. The run-flat insert of claim 5 wherein the thickness of said sidewall at the radially uppermost extent of said wedge is between about 4 percent to about 10 percent of the height of said sidewall.

12. The run-flat insert of claim 5 wherein the thickness of said wedge is between about 4 percent to about 10 percent of the height of said sidewall.

13. The run-flat insert of claim 1 wherein said sidewall has a linear stiffness in tension of at least 100 daN/mm.

14. The run-flat insert of claim 1 wherein said base member has a reinforcement material

having a tensile modulus of at least about 100 GPa and a tensile yield strength of at least about 10 GPa.

15. The run-flat insert of claim 14 wherein said base member has a monolithic reinforcement having a width of at least about 5 percent of a maximum section width of said insert and a height of about 50 percent of said width of said reinforcement.

16. The run-flat insert of claim 14 wherein each of said base member has reinforcing cores arranged in a three-layer stack having a 4-wire by 3-wire by 2-wire configuration of wires having a diameter of about 1 mm.

17. The run-flat insert of claim 14 wherein each of said base member has reinforcing cores arranged in a three-layer stack having a 3-wire by 2-wire by 1-wire configuration of wires having a diameter of about 1 mm.

18. The run-flat insert of Claim 1 wherein a ratio of the longitudinal tensile modulus of each of said membranes to the shear modulus of said shear layer is at least 100:1.

19. The run-flat insert of claim 18, wherein each of said membranes comprises at least one layer of essentially circumferentially oriented cord reinforcements.

20. The run-flat insert of claim 18, wherein each of said membranes comprises at least two layers of mutually oblique cord reinforcements, and said cord reinforcements fours an angle with the tire circumferential direction of between about 10 degrees and about 20 degrees.

21. The run-flat insert of claim 1, wherein said elastomeric shear layer has a thickness between about 4 mm and about 20 mm.

22. The run-flat insert of claim 1, wherein said elastomeric shear layer has a shear modulus of elasticity of between about 3 MPa and about 20 MPa.

23. The run-flat insert of claim 22, wherein said elastomeric shear layer has a tangent delta of less than or equal to about 0.1.

24. The run-flat insert of claim 1, wherein the product of the shear modulus of elasticity of said shear layer times the radial thickness of said shear layer divided by the radius of the outermost extent of said second membrane is between about 2 bar and about 6 bar.

25. The run-flat insert of claim 24, wherein the product of the shear modulus of elasticity of said shear layer times the radial thickness of said shear layer divided by the radius of the outermost extent of said second membrane is about 3 bar.

26. The run-flat insert of claim 1, wherein said insert has a maximum width between about 50 percent to about 70 percent of the tire section width.

27. The run-flat insert of claim 1, wherein said insert has a section height between about 40 percent to about 60 percent of the section height of the tire.